

Attachment B

Attachment B

Long Term Care Model(s) and Assumptions

Model(s)

Projection results are based on a projection of 173,724 policies inforce as of 6/30/05 from business issued through 6/30/05. CalPERS LTC business consists of facility-only and comprehensive policies and includes a variety of elimination period/benefit period/inflation coverage combinations. As summary of the model cells we used for projection purposes has been included as Attachment C.

Please note that we combined policy information for each potential model cell for which there were few inforce policies into a projection model cell that had the most similar benefit design.

Actually, projection results for each cell reflect output from three different models. The first model generates base policy projections, the second generates premium waiver projections, and the third generates return-of-premium benefit projections. Given that the first two models are built from the same model chassis and the relative insignificance of waiver-of-premium and return-of-premium benefits as compared to base policy benefits, the remainder of this attachment will focus on the base policy benefit models. Please note that the assumptions used for the latter two models are consistent with those used in the corresponding base policy projections.

Inforce Business as of 6/30/05 - Distributions of Business

The following distributions of business for all business inforce as of 6/30/05 are included in Attachment D:

- By benefit period and elimination combination
- By issue-age and attained-age
- By plan
- By inflation option
- By gender
- By marital status
- By premium mode
- By underwriting type

Please let me know if you would like to see any additional detail relating to the 6/30/05 inforce business.

Assumptions

Please note that detailed assumption printouts can be readily generated from each model for every model cell. The following subsections discuss the various assumptions used and include summaries of assumptions used throughout all of the model cells.

Morbidity

From a modeling standpoint, the following morbidity assumptions were used:

Ultimate Claim Costs - These vary by benefit design, gender and attained age, and were developed as described in this report.

Selection Factors – These vary by issue-age band and duration and were developed as described in this report. A table summarizing these factors has been included below.

Issue											
<u>Ages</u>	<u>PY 1</u>	<u>PY 2</u>	<u>PY 3</u>	<u>PY 4</u>	<u>PY 5</u>	<u>PY 6</u>	<u>PY 7</u>	<u>PY 8</u>	<u>PY 9</u>	<u>PY 10</u>	<u>PY 11+</u>
To 54	0.250	0.400	0.525	0.625	0.750	0.800	0.820	0.840	0.860	0.880	0.900
55-69	0.400	0.500	0.575	0.625	0.750	0.800	0.840	0.880	0.910	0.930	0.950
70-74	0.525	0.650	0.738	0.775	0.850	0.883	0.910	0.930	0.945	0.955	0.965
75-79	0.650	0.800	0.900	0.925	0.950	0.965	0.980	0.980	0.980	0.980	0.980
80-84	0.775	0.850	0.925	0.950	0.965	0.980	0.980	0.980	0.980	0.980	0.980
85+	0.800	0.875	0.950	0.965	0.980	0.980	0.980	0.980	0.980	0.980	0.980

Claim Payment Distributions – These vary by benefit period and claim duration. As referenced previously, they were updated for this valuation to reflect emerging experience and were developed to be consistent with current liability/reserve levels.

Morbidity Improvement - Future morbidity improvement of 1% per year has been assumed to proceed 20 years from the valuation date. We also made a corresponding mortality improvement assumption.

Inflation Adjustment – Appropriate morbidity adjustments are made for policies with inflation protection.

Adjustments to Reflect Individuals Already on Claim – These vary by benefit period, issue age and duration. They are used to adjust the assumed claim costs to be on an exposure basis consistent with that used in the projection model.

Policy Terminations

We performed a study comparing inception-to-date actual total termination rates by issue-age band and duration to previous voluntary lapse rate and mortality assumptions. The comparison appeared reasonable, so we did not recommend any changes.

Regarding assumed mortality, the following were used for all projection cells:

- 1994 GAM table along with 100% of projection scale AA.
- Selection factors by policy year as follows:

- PY1 – 0.39
- PY2 – 0.49
- PY3 – 0.57
- PY4 – 0.64
- PY5 – 0.67
- PY6+ - 0.71

Regarding assumed voluntary lapse rates, the following were used for all projection cells:

Issue Age	<u>PY 1</u>	<u>PY 2</u>	<u>PY 3</u>	<u>PY 4</u>	<u>PY 5</u>	<u>PY 6</u>	<u>PY 7</u>	<u>PY 8+</u>
<40	4.80%	3.80%	2.90%	2.70%	1.90%	1.80%	1.80%	1.60%
40-44	3.60%	2.80%	2.10%	1.70%	1.50%	1.10%	0.90%	0.90%
45-49	3.30%	2.30%	1.60%	1.20%	1.00%	0.90%	0.90%	0.90%
50-54	2.90%	2.10%	1.60%	1.20%	0.70%	0.70%	0.70%	0.50%
55-59	2.80%	1.80%	1.20%	1.00%	0.70%	0.60%	0.40%	0.40%
60-64	2.60%	1.30%	1.00%	0.60%	0.50%	0.40%	0.30%	0.30%
65-69	2.10%	1.00%	0.70%	0.50%	0.40%	0.30%	0.30%	0.30%
70-74	2.20%	1.10%	0.60%	0.50%	0.50%	0.50%	0.50%	0.50%
75-79	2.70%	1.00%	0.80%	0.70%	0.60%	0.60%	0.60%	0.60%
80-84	2.70%	1.90%	1.60%	1.10%	1.00%	1.00%	1.00%	1.00%
85+	3.30%	2.50%	2.30%	1.90%	1.50%	1.50%	1.50%	1.50%

In addition, lapse rates were increased to reflect claimants that exhaust limited benefit periods.

Expenses

We used the following expense assumptions:

- Regarding fixed dollar expenses:
 - For fiscal year 2006, we assumed that fixed LTCG administrative fees would be \$127,281.65 per month for nine months and then \$131,100.10 for the remaining three months, plus \$1.3 million per year for CalPERS operational expenses.
 - We increased these values by 3% each year for fiscal years 2007 through 2011.
 - For fiscal years 2012 and later, we increased the prior year fixed expense by 3%, but then reduced it by the ratio of current premium to the prior year premium. The intent of this is to adjust for the fact that if the program volume declines, expenses will need to decline as well.
- LTCG administrative fees of \$2.61 per member per month.
- LTCG claim administrative fees equal to 4.7% of incurred claims.

All non-fixed-dollar expenses are also assumed to inflate at 3.0% per year.

Miscellaneous

Regarding investment earnings, we assumed 7.00% on both assets and annual cash flows.

Attachment C

Attachment C

**CalPERS LTC Program
Summary of Model Cells Included in 6/30/2005 Projection**

<u>Cell Name</u>	<u>Cell Description</u>	<u>6/30/2005 Inforce</u>	<u>6/30/2005 Annualized Premium</u>
P1	Partnership, 1 Yr BP, 30 Day EP, Inflation	2,653	2,769,590
P2	Partnership, 2 Yr BP, 30 Day EP, Inflation	4,702	6,127,492
C3	Comprehensive, 3 Yr BP, 90 Day EP, No Inflation	9,337	12,533,414
C3i	Comprehensive, 3 Yr BP, 90 Day EP, Inflation	10,692	16,083,641
CL	Comprehensive, Lifetime BP, 90 Day EP, No Inflation	25,247	30,370,477
CLi	Comprehensive, Lifetime BP, 90 Day EP, Inflation	83,321	132,497,875
N3	Facilities Only, 3 Yr BP, 90 Day EP, No Inflation	5,418	5,711,382
N3i	Facilities Only, 3 Yr BP, 90 Day EP, Inflation	5,069	6,352,142
NL	Facilities Only, Lifetime BP, 90 Day EP, No Inflation	8,634	10,133,242
NLi	Facilities Only, Lifetime BP, 90 Day EP, Inflation	18,651	27,440,029
Total		173,724	250,019,283

Attachment D

Attachment D

**CalPERS LTC Program
Distributions of Business Inforce as of 6/30/05**

By Benefit Period and Elimination Period

<u>Benefit Period</u>	<u>Elimination Period</u>	<u>Count</u>
1 Year	30 Day	2,653
2 Year	30 Day	4,702
3 Year	90 Day	30,516
Lifetime	90 Day	135,853
Total		173,724

By Issue Age and Gender

<u>Issue Age Band</u>	<u>Females</u>	<u>Males</u>
27	593	339
36	5,161	3,144
42	6,736	3,771
47	12,373	7,004
52	18,272	11,185
57	19,771	13,470
62	16,806	13,347
67	11,954	9,641
72	7,634	5,345
77	3,452	2,055
81	958	464
86	184	60
91	14	9
98	2	-
Total	103,890	69,834

By Attained Age and Gender

<u>Attained Age</u>	<u>Females</u>	<u>Males</u>
27	29	16
28	34	22
29	87	53
30	74	46
31	84	53
32	65	34
33	51	27
34	38	22
35	66	42
36	241	139
37	254	173
38	516	344
39	589	381
40	552	332
41	444	277
42	613	386
43	944	536
44	1,455	833
45	1,230	728
46	901	563
47	954	518
48	1,106	615
49	2,083	1,135
50	2,313	1,267
51	2,068	1,092
52	1,980	1,105
53	1,933	1,127
54	3,269	2,003
55	3,948	2,394
56	3,423	2,075
57	2,867	1,902
58	2,602	1,689
59	4,628	2,941
60	4,377	2,861
61	3,879	2,508
62	2,667	1,912
63	2,592	1,876
64	3,856	2,761
65	4,363	2,924
66	3,916	2,644
67	1,796	1,485
68	1,821	1,513
69	3,041	2,395
70	3,594	2,932
71	4,396	3,107
72	1,075	977

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**CalPERS LTC Program
Distributions of Business Inforce as of 6/30/05**

73	1,254	1,053
74	2,237	1,746
75	2,678	2,080
76	3,859	3,012
77	633	443
78	883	544
79	1,475	969
80	1,752	1,191
81	2,525	1,811
82	367	217
83	423	232
84	627	387
85	713	465
86	846	539
87	146	79
88	130	83
89	217	72
90	191	94
91	19	7
92	15	5
93	21	16
94	25	14
95	27	7
96	3	-
97	5	1
98	1	2
99	1	-
100	1	-
102	1	-
107	1	-
Total	103,890	69,834

By Plan Type

<u>Plan</u>	<u>Count</u>
Partnership	7,355
Comprehensive	128,597
Facilities Only	37,772
Total	173,724

By Inflation

<u>Inflation</u>	<u>Count</u>
No Inflation	48,636
Inflation	125,088
Total	173,724

By Marital Status

<u>Marital Status</u>	<u>Gender</u>	<u>Count</u>
Married	F	64,693
Married	M	56,386
Divorced	F	14,416
Divorced	M	4,198
Single	F	11,813
Single	M	5,866
Widowed	F	12,247
Widowed	M	2,405
Unknown	F	715
Unknown	M	973
Separated	F	6
Separated	M	6
Total		173,724

By Premium Mode

<u>Premium Mode</u>	<u>Count</u>
Monthly	131,526
Quarterly	32,416
Semi-Annually	5,655
Annually	4,127
Total	173,724